

## INTERNATIONAL SEARCH REPORT

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| International Application No<br>T/RU 03/00512 |
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| A. CLASSIFICATION OF SUBJECT MATTER<br>IPC 7 B21D47/00 B32B3/28 E04C2/34 |
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According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 B21D E04C B32B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

PAJ, EPO-Internal, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No. |
|------------|--|-----------------------|
| X          | PATENT ABSTRACTS OF JAPAN<br>vol. 013, no. 174 (C-589),<br>25 April 1989 (1989-04-25)<br>-& JP 01 004254 A (AICHI STEEL WORKS LTD),<br>9 January 1989 (1989-01-09)<br>abstract; figures 4,5<br>--- | 1                     |
| A          | PATENT ABSTRACTS OF JAPAN<br>vol. 2000, no. 25,<br>12 April 2001 (2001-04-12)<br>-& JP 2001 232431 A (NIPPON STEEL CORP),<br>28 August 2001 (2001-08-28)<br>abstract; figures 1,2<br>---           | 1                     |
| A          | US 5 635 306 A (NIPPON STEEL CORPORATION)<br>3 June 1997 (1997-06-03)<br>figure 4A<br>---  | 1                     |
|            | -/-  |                       |

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

## \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the International filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
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- \*T\* later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

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|--|--|
| Date of the actual completion of the International search<br><br>16 September 2004   | Date of mailing of the International search report<br><br>04/10/2004 |
| Name and mailing address of the ISA<br><br>European Patent Office, P.B. 5818 Patentlaan 2<br>NL - 2280 HV Rijswijk<br>Tel: (+31-70) 340-2040, Tx. 31 651 epo nl,<br>Fax: (+31-70) 340-3016 | Authorized officer<br><br>Vinci, V                                   |

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national Application No

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category | Citation of document, with indication, where appropriate, of the relevant passages    | Relevant to claim No. |
|----------|---|-----------------------|
| A        | AT 389 070 B (GUERTH WERNER ING)<br>10 October 1989 (1989-10-10)<br>figure 1<br>----- | 1                     |

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## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/RU 03/00512

| Patent document cited in search report |   | Publication date | Patent family member(s)  |  | Publication date |
|--|---|------------------|--|--|------------------|
| JP 01004254                            | A | 09-01-1989       | NONE   |  |                  |
| JP 2001232431                          | A | 28-08-2001       | NONE   |  |                  |
| US 5635306                             | A | 03-06-1997       | JP 2891314 B2<br>JP 5269897 A<br>JP 2609028 B2<br>JP 5277597 A<br>JP 3069190 B2<br>JP 5269898 A<br>EP 0589054 A1<br>WO 9319933 A1<br>KR 9605425 B1 | 17-05-1999<br>19-10-1993<br>14-05-1997<br>26-10-1993<br>24-07-2000<br>19-10-1993<br>30-03-1994<br>14-10-1993<br>25-04-1996 |                  |
| AT 389070                              | B | 10-10-1989       | AT 198887 A  |  | 15-03-1989       |